CLAIMS

WHAT IS CLAIMED:

1.   A communications system, comprising:

physical layer hardware adapted to communicate data over a communications channel

in accordance with a plurality of control codes, the physical layer hardware

being adapted to demodulate an incoming analog signal to generate a digital

receive signal and modulate a digital transmit signal to generate an analog

transmit signal; and

a processing unit adapted to execute a privileged driver for interfacing with the

physical layer hardware, the privileged driver including program instructions

for implementing a protocol layer to decode the digital receive signal, encode

the digital transmit signal, and configure the physical layer hardware for

receipt of the digital receive signal and transmission of the digital transmit

signal based on the plurality of control codes.

2.   The system of claim 1, further comprising a memory adapted to store a

privileged code, the privileged code, when executed by the processing unit being adapted to

define an instruction for configuring the physical layer hardware as a privileged instruction,

receiving a request to execute the privileged instruction from a calling program, determine if

the calling program has authority to execute the privileged instruction, and execute the

privileged instruction in response to determining the calling program has the authority to

execute the privileged instruction.

3.   The system of claim 2, wherein the privileged code, when executed, is adapted

to determine if the calling program comprises the privileged driver.

4.   The system of claim 2, further comprising a first and second register, wherein the privileged code, when executed, is adapted to write to the first and second registers to define a memory region in a computer system where the privileged instruction resides.

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5.   The system of claim 2, wherein the privileged code, when executed, is adapted to determine if the calling program has authority to execute the privileged instruction by referencing a stack of a computer system to verify the identity of the calling program.

10   6.   The system of claim 2, wherein the privileged code, when executed, is adapted to determine if the calling program has authority to execute the privileged instruction by authenticating the calling program.

7.   The system of claim 2, wherein the privileged code, when executed, is

15   adapted to receiving the request to execute the privileged instruction by receiving an exception generated by the processing unit in response to the calling program attempting to execute the privileged instruction.

8.   The system of claim 1, wherein the control codes include at least one of a

20   power level assignment, a frequency assignment, and a time slot assignment.

9.   The system of claim 1, wherein the processing unit comprises a microprocessor.

25   10.   The system of claim 1, further comprising:

a processor complex adapted to execute the privileged code;

a bus coupled to the processor complex; and

an expansion card coupled to the bus, the expansion card including the physical layer

   hardware.

11.   A communications system, comprising:

physical layer hardware adapted to communicate data over a communications channel

   in accordance with a plurality of control codes, the physical layer hardware

   being adapted to demodulate an incoming analog signal to generate a digital

   receive signal and modulate a digital transmit signal to generate an analog

   transmit signal;

a processing unit adapted to execute a privileged driver for interfacing with the

   physical layer hardware, the privileged driver including program instructions

   for implementing a protocol layer to decode the digital receive signal, encode

   the digital transmit signal, and configure the physical layer hardware for

   receipt of the digital receive signal and transmission of the digital transmit

   signal based on the plurality of control codes;

a memory adapted to store a privileged code, the privileged code, when executed by

   the processing unit, being adapted to define an instruction for configuring the

   physical layer hardware as a privileged instruction, receiving a request to

   execute the privileged instruction from a calling program, determine if the

   calling program has authority to execute the privileged instruction, and

   execute the privileged instruction in response to determining the calling

   program has the authority to execute the privileged instruction.

12.   A method for configuring a transceiver, comprising:

demodulating an incoming analog signal to generate a digital receive signal based on

a plurality of control codes;

modulating a digital transmit signal to generate an analog transmit signal based on the

5   control codes; and

executing a privileged driver for configuring the plurality of control codes.

13.   The method of claim 12, further comprising:

defining an instruction for configuring the control codes as a privileged instruction;

10   receiving a request to execute the privileged instruction from a calling program;

determining if the calling program has authority to execute the privileged instruction;

and

executing the privileged instruction in response to determining the calling program

has the authority to execute the privileged instruction.

15   14.   The method of claim 13, wherein determining if the calling program has

authority to execute the privileged instruction further comprises determining if the calling

program comprises the privileged driver.

20   15.   The method of claim 13, wherein determining if the calling program has

authority to execute the privileged instruction further comprises referencing a stack of a

computer system to verify the identity of the calling program.

16.   The method of claim 13, wherein determining if the calling program has authority to execute the privileged instruction further comprises authenticating the calling program.

5   17.   The method of claim 13,   wherein receiving the request to execute the privileged instruction further comprises receiving an exception in response to the calling program attempting to execute the privileged instruction.

18.   The method of claim 12, wherein demodulating the incoming analog signal based on the plurality of control codes further comprises demodulating the incoming analog signal based on at least one of a frequency assignment, and a time slot assignment.

19.   The method of claim 12, wherein modulating the digital transmit signal based on the control codes further comprises modulating the digital transmit signal based on at least one of a power level, a frequency assignment, and a time slot assignment.

20.   A method for configuring a transceiver, comprising:

demodulating an incoming analog signal to generate a digital receive signal based on a plurality of control codes;

modulating a digital transmit signal to generate an analog transmit signal based on the control codes;

executing a privileged driver for configuring the plurality of control codes;

defining an instruction for configuring the control codes as a privileged instruction;

receiving a request to execute the privileged instruction from a calling program;

determining if the calling program has authority to execute the privileged instruction; and

executing the privileged instruction in response to determining the calling program has the authority to execute the privileged instruction.

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21. A communication system, comprising:

means for demodulating an incoming analog signal to generate a digital receive signal based on a plurality of control codes;

means for modulating a digital transmit signal to generate an analog transmit signal based on the control codes; and

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means for executing a privileged driver for configuring the plurality of control codes.

22. The system of claim 21, further comprising:

means for defining an instruction for configuring the control codes as a privileged instruction;

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means for receiving a request to execute the privileged instruction from a calling program;

means for determining if the calling program has authority to execute the privileged instruction; and

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means for executing the privileged instruction in response to determining the calling program has the authority to execute the privileged instruction.